

**CLAIMS**

1. An internal combustion engine system with a capability to generate hydrogen, comprising:

5 a hydrogenated fuel tank which is replenished with an organic hydride-contained hydrogenated fuel;

a gasoline tank which is replenished with a normal gasoline;

10 fuel separating means for separating the hydrogenated fuel into a hydrogen rich gas and a dehydrogenation product;

hydrogen rich gas consuming means for consuming the hydrogen rich gas;

15 dehydrogenation product mixing means for mixing the dehydrogenation product with the normal gasoline; and

fuel supplying means by which a mixed fuel composed of the normal gasoline and the dehydrogenation product is supplied to an internal combustion engine.

20 2. The internal combustion engine system according to Claim 1, wherein the dehydrogenation product mixing means includes:

dehydrogenation product guiding means for guiding the dehydrogenation product into the gasoline tank;

25 mixed ratio detecting means for detecting the mixed ratio of the dehydrogenation product in the gasoline tank;

and

dehydrogenation product stopping means for prohibiting the dehydrogenation product from flowing into the gasoline tank if the mixed ratio exceeds the maximum allowable mixed ratio.

3. The internal combustion engine system according to Claim 2, wherein:

a dehydrogenation product tank to pool the dehydrogenation product is provided;

the dehydrogenation product guiding means includes a flow separator capable of implementing a first state in which the dehydrogenation product is guided into the gasoline tank and a second state in which the dehydrogenation product is guided into the dehydrogenation product tank;

the dehydrogenation product stopping means includes flow separator control means which sets the flow separator to the second state if the mixed ratio exceeds the maximum allowable mixed ratio; and

there is provided alarming means which if the amount of the dehydrogenation product pooled in the dehydrogenation product tank reaches the maximum allowable amount, issues an alarm about the condition.